

Draft Framework for Home Drinking Water Sampling Study

- Need to determine objectives of study, to assure sampling design will satisfy
- Concepts presented below would generally characterize occurrence of MCHM [and PPH?] in households in the WV American Water Company service area
- Integrate two schemes as basic design:
 - CDC CASPER study¹ (*Note that this design is not final*) – 30 clusters, each cluster being a grouping of census tracts, within WV American Water service area map
 - representative of affected population
 - 30 clusters x 7 households/cluster = 210 sampling locations
 - SDWA Total Coliform Rule sampling sites routinely sampled by WV American Water Company – sample homes near to TCR sampling locations
 - representative of distribution system hydraulics
 - Approx. 140 sampling locations
 - Consider also including homes in distribution system areas of special interest, such as dead-ends, storage tanks/towers, etc.
- This would yield 350+ homes:
 - 210 from CASPER study
 - 140 from TCR locations
 - Additional homes in/near areas of special interest
- Consider sampling objectives for each home site, including potential needs for follow-up
 - Cold, Hot, Both, Composite?
 - Samples for VOCs – additional sample for SVOCs?
 - Samples could be collected and archived, available for later analysis if needed (e.g., analyze all cold water samples, later analyze hot if needed)
 - Analysis plan could include primary sample set, and some portion of secondary set (e.g., analyze all cold water samples and 10% of hot water samples)
- Some factors impacting sampling design:
 - Consensus on study objective(s)
 - Budgetary constraints (staffing to visit/sample homes; training of staff/volunteers; supplies; analytical objectives; analytical costs)

¹ Decision on CASPER study pending; specific study design would be finalized subsequently

- Capacity (e.g., staff availability; laboratory capacity)
 - Schedule – expectations for timing of study initiation, study completion
- Short list of things to do:
 - Develop home visit/sampling protocol (e.g., home visits in pairs? Flush water during interviews? What taps are to be sampled? etc.)
 - Train staff
 - Develop questions for home visits for both CASPER protocol (health questions) and drinking water sampling (plumbing age, materials, reservoirs, configuration; flushing experience; use; etc.)
 - Determine how to notify households, solicit participation
 - Prepare consent documents for interviews and sampling; privacy agreements
 - Develop communication materials